Program PANDORA

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Program Pandora provides the following checks in an ENSDF data set:

- Decay data sets, other than SF decays have a P-card and vice versa.
- A L-card with $T_{1/2} > 0.1s$ should have MS flag
- check consistency of spin/parity of levels with multipolarity of connecting transitions.
- For transfer reaction with even-even target $J = L \pm 1/2$, parity= $(-1)^L$
- For $3.6 < logft < 5.9$, $J_f = |J_i - 1|...|J_i + 1|$, parity change=no. For 1U and $logft \geq 8.5$, $J_f = J_i \pm 2$, parity change=yes
- For alpha-decay if mass is odd and $HF < 4, J_f = J_i$, parity change=no, if $J_f or J_i = 0$ parity change= $(-1)^{|J_f - J_i|}$
- levels out of order

The program provides the following evaluation aids:

- Collates levels seen in various experiments and group them together in increasing energy.
- Assigns cross reference symbols.
- Creates Cross-reference records, which together with level list helps create adopted levels data set
- Collates gamma rays seen in various experiments and groups them together.
- Gamma-ray lists are sorted in two ways. One by gamma-ray energy and the other by energy of parent level. In the latter list, gamma intensities are changed to branching ratios which helps comparison of various experiments and creation of adopted gammas data set.

The program creates the following files in the user's disk area:

- pandora.err: errors and warnings in input data
- pandora.lev: report of levels in input arranged by A, Z, E(level), and DSID
- pandora.gam: report of gamma in input arranged by A, Z, Eγ, and DSID
- pandora.gle: report of gamma in input arranged by A, Z, E(parent level), Eγ, and DSID. Iγ given are branching ratios, I(strongest γ)=100
- pandora.rad: report of Beta/Electron-capture in input arranged by A, Z, E(β/ϵ), and DSID
- pandora.xrf: file of cross-reference records - cross-ref symbols used are also given in pandora.lev
- pandora.rep: file of ignored records, levels that have no match in adopted levels, frequency of XREF symbols, new XREF symbols, etc.